GPS Receiver

SiRF Star II

GMS–N08-D

User's Guide

1.　INTRODUCTION

Thank you for choosing theGMS-N08-D, the compact size 12-channel integrated GPS receiver for Palm and Pocket PC based PDA. Please take some time to read through this manual to get familiar with the operating features of the GMS-N08-D. The GMS-N08-D consists of a high-performance GPS engine and built-in patch antenna. It provides fast positioning and instant real-time navigation while consuming only small amounts of power. The GMS-N08-D delivers quality navigation information to the PDA or PC at 4800-baud rate in NMEA protocol. Operating it with GPS-enabled map software, you will arrive at your destination comfortably and effortlessly.

2. Features:

- Builds on SiRF Star IIe/LP (low power consumption) chipset with embedded ARM7TDMI CPU available for customized applications in firmware.
- 12 parallel satellite-tracking channels for fast acquisition and reacquisition.
- High-speed signal acquisition using 1920 time/frequency search channels.
- Built-in hardware Tracking Loop Processor WAAS/EGNOS Demodulator and NDGPS/U.S. Coast Guard Beacon support.
- Low power consumption.
- Built-in rechargeable battery for memory and RTC backup and for fast Time to First Fix (TTFF).
- Support NMEA0183 v2.2 data protocol.
- Enhanced algorithms provide superior navigation performance in urban, canyon and foliage environments.
- For Car Navigation, Marine Navigation, Fleet Management, AVL and Location-Based Services, Auto Pilot, Personal Navigation or touring devices, Tracking devices/systems and Mapping devices application.
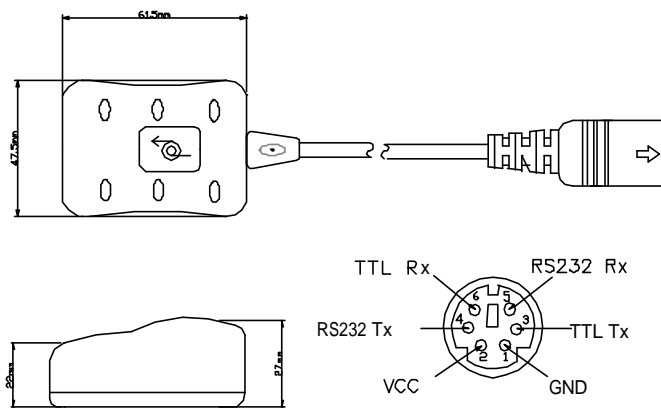
3. APPLICATIONS

Works with electronic map software for:

- Car navigation and tracking
- Vehicle monitoring
- Outdoor activities positioning
- Marine guidance

4. SPECIFICATIONS

- **Tracks up to 12 satellites.**
- **Receiver: L1, C/A code**
- **Snap Start: <3 sec(at < 25 minutes off period)**
- **Update rate: 1 HZ.**
- **Acquisition time**
    - **Reacquisition   0.1sec.averaged**
    - **Hot start   8 sec., averaged**
    - **Warm start   38 sec., averaged**
    - **Cold start   45 sec., averaged**
- **Position accuracy:**
    - **Non DGPS (Differential GPS)**
        - **Position   5-25 m CEP without SA**
        - **Velocity   0.05 m/sec, typical**
        - **Time   1 usec sync GPS Time**
    - **DGPS (Differential GPS)**

- ▪ **Position   1 to 5 m, typical**
- ▪ **Velocity   0.1 m/sec, without SA**
- ▪ **EGNOS/WAAS/Beacon**
  - ▪ **< 2.2 m, horizontal 95% of time**
  - ▪ **< 5 m, vertical 95% of time**

- **Antenna Type: Built in Patch Antenna**
- **Dynamic Conditions:**

   Altitude   18,000 meters   (60,000 feet)max

   Velocity   515 meters / second (700 knots) max

   Acceleration   4 G, max

   Jerk   20 meters/second, max

- **Minimum signal tracked: -175dBW**
- **Dimension: 66 × 46 X 27.5 mm**
- **Weight: <100g**
- **LED function:**

   Power On/Off and Navigation

   Update Indication

- **Operation Temperature:**

   -40 ℃ to +80 ℃

- **Store Temperature:**

   -45 ℃ to +100 ℃

- **Operation Humidity:**

   5% to 95% No condensing.

- **Power consumption**

   <85mA at 4.5- 5.5V input

- **Protocol and interface:**

  - ◆ **NMEA output protocol: V.2.2**

   Baud rate: 4800 bps

   Data bit: 8

   Parity: N

   Stop bit: 1

   Output format:

   Standard: GGA, GSA,GSV, RMC.

   Optional: GLL, VTG, SiRF binary

  - ◆ **Interface:**

   RS232 + CMOS TTL Level, or
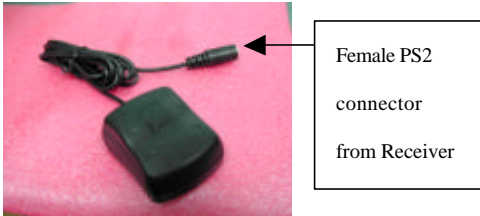
   RS-232 + DGPS

ZIPPY TECHNOLOGY CORP.

10F, NO. 50, MIN CHYUAN RD.
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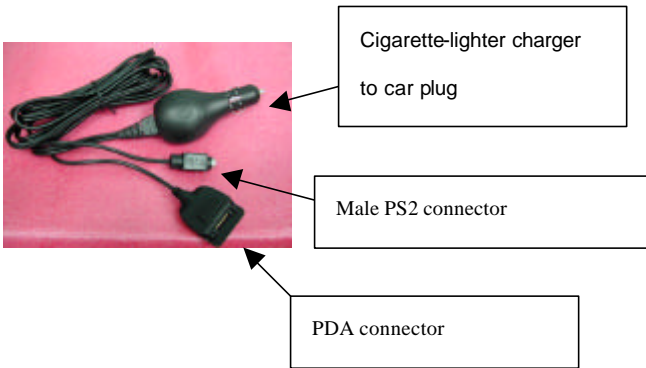TEL.: +886-2-29188512   EXT: 141
FAX: +886-2-29155765

5. INSTALLATION & OPERATION

For PDA

Female PS2 connector from Receiver
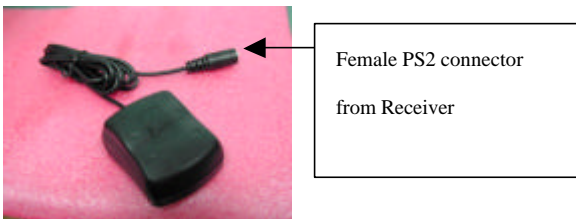
Female PS2 connector from GMS-N08-D

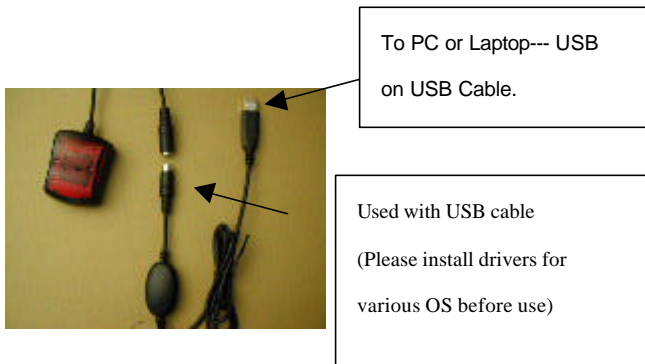Cigarette-lighter charger to car plug

Male PS2 connector

PDA connector

1. Plug the PS2 (female) connector of the GMS-N08-D into the PS2 (male) connector of the cigarette charger cable, have the PDA connector to your pocket PC or Palm.
2. With the car's engine running, plug the cigarette-lighter adaptor into the cigarette lighter of your car.
3. Turn on the pocket PC and execute your GPS enabled map software.
4. Follow the instructions for your map software for further navigation guide.

For PC/Laptop

Female PS2 connector from Receiver

Female PS2 connector from GMS-N08-D

To PC or Laptop--- USB on USB Cable.

Used with USB cable (Please install drivers for various OS before use)

1. Plug the USB connector into your PC or Laptop with power turned on.
2. The computer will find an unknown USB device.
3. Go to control panel-> system->hardware->device manager, then find the unknown USB device.
4. Update the driver for the USB device by the driver included in the Tool CD under the USB driver, and pick up the proper driver for your OS.
5. After the installation of the driver, plug the PS2 connector (male) to PS2 connector of GMS-N08-D G-mouse.
6. Execute your GPS enabled map software.
7. Follow the instructions for your map software for further navigation guide.

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6. TROUBLE SHOOTING

To get an accurate initial position quickly, please find an open area so that the G Mouse can be seen as much sky as possible.

The GMS-N08-D has no power switch or reset button. To reset, simply disconnect the connector and plug it back in ten (10) seconds later.

Normally, the GMS-N08-D will find your position within 60 seconds. In case a position is not fixed in 90 seconds, reset the GMS-N08-D. If the situation continues, please drive to an open area or move the GMS-N08-D to the outside of your vehicle and restart/reset the G Mouse.

7. SPECIAL NOTICE

FOR YOUR SAFETY, DO NOT OPERATE THE G Mouse OR POCKET PC WHILE YOU ARE DRIVING!

PLEASE PARK YOUR VEHICLE IN A SAFE PLACE FIRST WHENEVER YOU NEED TO OPERATE THE POCKET PC OR the G Mouse.

8. WARRANTY

The GMS-N08-D is warranted by Zippy to the original purchaser to be free from defects in material and workmanship under normal use for a period of one year from the date of purchase. During the warranty period, and upon proof of purchase, the product will be repaired or replaced (with the same or a similar model) at Zippy's option without charge for parts or labor. This warranty will not apply if the product has been misused, abused, or altered. To obtain warranty service you must take or send the product, postage paid, with a copy of your sales receipt or other proof of purchase and the date of purchase to authorized dealer of the product. Pilot.

9. Compliances of CE / FCC

FCC CE TESTED, MAXIMUM RATING 3.3V, 85mA

10. OPTIONAL ACCESSORIES

	Model no.	Description
PDA Connector **input: 12-24V** **Output: 5V** **Max. 2 A**	2GM-0PM-L001	**For SONY T-XX**
	2GM-0PM-K001	**For Palm M500**
	2GM-0PM-K002	**For Palm VX**
	2GM-0PM-A001	**For Casio E-115**
	2GM-0PM-A002	**For Casio E125/EM500**
	2GM-0PM-A003	**For Casio E200**
	2GM-0PM-C001	**For IPAQ 36/37XX**
	2GM-0PM-D001	**For IPAQ 38/39XX**
	2GM-0PM-M001	**For Toshiba E-570**
	2GM-0PM-M002	**For Toshiba E-740**
	2GM-0PM-M002	**For Toshiba E-330**
	2GM-0PM-J001	**For Fujisu-Siemens LOOX**
	2GM-0PM-P001	**For NEC/MIO 528/338**
	2GM-0PM-P001	**For XDA/T-Mobile MDA**
	2GM-0PM-H001	**For Asus A600**
	2GM-0PM-I001	**For Dell Axim X5**
PDA Holder	2GM-0AB-A001	**Suck type used on windshield (short)**
	2GM-0AB-A001	**Suck type used on windshield (long)**
Base cable	2GM-0MW-A001	**RS232+PS2 (to GPS)+USB (w/o IC) only for PDA**
	2GM-0TW-B001	**RS232+PS2 (to GPS)+USB (w/ IC) for Laptop & PDA**
Car Cigarette	2GM-0PW-Q001	**13V, MAX. 2A, 3W**

Specifications are preliminary and subjected to change without notice

11. ORDERING INFORMATION

Model No.	Description
GMS-N08-D	G-Mouse with PS2 female connector
GMS-N01-D	G-Mouse with USB connector for PC/Laptop

12. Different kinds of Connector for the GPS Mouse:

The GPS Mouse includes an antenna in a unique style waterproof enclosure. Zippy **"standard"** connector is PS2 female connector to be connected one of the accessories linking to your notebook PC / PDA or other devices. The option connector types are listed and described below:

RS232 interface with PS2 or USB or Cigarette connector

USB interface

PS2 female interface

GPS Mouse

Reference Information:

RS232 interface
(USB powered)

USB interface

RS232 interface
(PS2 powered)

Complete Accessories for the PDA